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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,955	02/16/2001	Martina Wicher	421 P 037	5781

26568 7590 09/03/2003

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CHICAGO, IL 60606

EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-14

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/785,955	WICHER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin R Kruer	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-6, 8, 10-18 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 10, 11, 15-18 and 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 10, 2003 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6, 8, 10, 11, 15-18, and 20-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "less than about," "at least about," and "a maximum of about" are indefinite because there is nothing in the specification or the prior art to provide any indication as to what specific range is covered by the term "about." The terms "less than," "at least," and "a maximum of" each connote a specifically set maximum or minimum value. However, the definitiveness of these values is obfuscated by the use of the term "about."

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 15, 16, 18, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naydowski et al (US 5,605,568) in view of Schiappa et al (US 4,729,928). Naydowski teaches a coated paper wherein the coating composition consists of 24-64wt%  $\text{CaCO}_3$ , 5-48wt% talc, and 20-40wt% water (abstract). The pigments have an average particle size of 0.4-1.5 $\mu\text{m}$  (abstract), wherein 27-75wt% of the particles have a particle size or less than 1 $\mu\text{m}$ , and 0.1-35wt% have a particle size less than 0.2 $\mu\text{m}$  (col 3, lines 47+). The coating may be applied to raw paper in amounts of 9g/m<sup>2</sup> (Table 1).

While the exact particle size distribution ranges specified in the instant claims are not disclosed, the ranges disclosed by Naydowski overlap with the claim requirements and are therefore considered to necessarily teach the instant claims. Alternatively, one skilled in the art would have found it obvious to adjust the particle size distribution of the pigment to meet the claim requirements. The motivation for doing so would have been to control the viscosity of the composition so that it could be applied at high coating speeds (col 8, lines 41+).

With respect to claim 15 and the claims dependent therefrom, a recitation of the intended use of the claimed invention must result in a structural difference between the

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claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The examiner takes the position that the laminate taught by Naydowski in view of Schiappa is capable of performing the intended use because it comprises the same layers in the same order as the claimed invention. Furthermore, the backside of the paper support or the polyethylene (after surface treatment) could be rendered ink receptive.

Naydowski does not teach that the paper may be further coated with a polyolefin resin composition. However, Schiappa teaches that a technique widely employed in providing protective coatings on printed materials as may be needed for high visibility and adverse wear conditions is the lamination of a protective polymeric material over the printed stock. The polymeric material is transparent and provides gloss of 73-74 to the printed stock (col 1, lines 64+). The polymeric material is typically polyethylene (col 5, lines 49+). It would have been obvious to one of ordinary skill in the art to apply a polyethylene coating to the printed paper taught in Naydowski in order to provide the paper with the desired protection and gloss.

With respect to claims 21-23, Schiappa does not teach the amount of polyethylene that should be applied, but does state that polyethylene preferably provides transparency and protection to the underlying substrate. Therefore, it would have been obvious to one of ordinary skill in the art to vary the amount of polyethylene applied to optimize the protection and transparency provided by the polymeric material.

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With respect to claims 24 and 25, it would have been obvious to one of ordinary skill in the art to minimize the surface roughness of the coating in order to optimize the gloss of the layer.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naydowski et al (US 5,605,568) in view of Schiappa et al (US 4,729,928), as applied to claims 1, 2, 4, 15, 16, 18, 21, and 23-25 above, and further in view of Govers et al (US 6,482,581B1). Naydowski in view of Schiappa is relied upon above, but neither reference teaches the bulk density of the base paper. However, teaches that the surface density and bulk density of a base paper is improved by pre-calendaring it, resulting in a higher quality paper (col 6, lines 35+). Thus, it would have been obvious to one of ordinary skill in the art to pre-calendar the base paper of Naydowski in order to optimize its surface density and improve its print quality.

7. Claims 6, 8, 11, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naydowski et al (US 5,605,568) in view of Schiappa et al (US 4,729,928), as applied to claims 1, 2, 4, 15, 16, 18, 21, and 23-25 above, and further in view of Viratanen (US 6,143,064). Naydowski in view of Schiappa is relied upon as above, but does not teach that the calcium carbonate should be surface modified. However, Viratanen teaches a pigment particle comprising a pigment particle that is coated with particles of precipitated calcium carbonate (abstract). The precipitated calcium carbonate is platelet shaped (see electron micrograph figures). Said particles have excellent brightness (abstract) and are useful in paper coatings. Therefore, it would have been obvious to one of ordinary skill in the art to surface modify the

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particles taught in Naydowski with precipitated calcium carbonate in order to improve the brightness of the paper.

8. Claims 1-3, 8, 10, 15-17, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiorns et al (US 6,284,034) in view of Schiappa et al (US 4,729,928). Hiorns teaches a coated paper wherein the coating composition comprises a blend of components A and B as follows:

Component A comprises a fine pigment material suitable for gloss coating of a sheet material comprising at least 80wt% of a particle having an equivalent spherical diameter (esd) of less than 2 $\mu$ m and having a particle size distribution (psd) such that the particle esd value less than which 50% of the particles have esd, is less than 1 $\mu$ m; and

Component B comprises a coarse particulate material (abstract).

Component A may have a d50 value of from 0.4-0.7 $\mu$ m. Preferably, not more than 2% of the particles of component A have an esd of 5 $\mu$ m or more. At least 90wt% of the particles of component A have an esd less than 2 $\mu$ m. In some example of component A, at least 90wt% of the particles of component A may have an esd less than 1 $\mu$ m (col 2, lines 10+). Component A may comprise kaolin or calcium carbonate (col 2, lines 53+). The pigment may be utilized with a hydrophilic adhesive (col 3, lines 5+) and applied to printing paper.

While the exact particle size distribution ranges disclosed overlap with the claim requirements and are therefore considered to necessarily teach the instant claims. Alternatively, one skilled in the art would have found it obvious to adjust the particle size

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distribution of the pigment to meet the claim requirements. The motivation for doing so would have been to control gloss (col 1, lines 41+) and release properties (col 2, lines 31+) of the paper.

With respect to claim 15 and the claims dependent therefrom, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The examiner takes the position that the laminate taught by Hiorns in view of Schiappa is capable of performing the intended use because it comprises the same layers in the same order as the claimed invention. Furthermore, the backside of the paper support or the polyethylene (after surface treatment) could be rendered ink receptive.

Hiorns does not teach that the paper may be further coated with a polyolefin resin composition. However, Schiappa teaches that a technique widely employed in providing protective coatings on printed materials as may be needed for high visibility and adverse wear conditions is the lamination of a protective polymeric material over the printed stock. The polymeric material is transparent and provides gloss of 73-74 to the printed stock (col 1, lines 64+). The polymeric material is typically polyethylene (col 5, lines 49+). It would have been obvious to one of ordinary skill in the art to apply a polyethylene coating to the printed paper taught in Hiorns in order to provide the paper with the desired protection and gloss.



With respect to claims 21-23, Schiappa does not teach the amount of polyethylene that should be applied, but does state that polyethylene preferably provides transparency and protection to the underlying substrate. Therefore, it would have been obvious to one of ordinary skill in the art to vary the amount of polyethylene applied to optimize the protection and transparency provided by the polymeric material.

With respect to claims 24 and 25, it would have been obvious to one of ordinary skill in the art to minimize the surface roughness of the coating in order to optimize the gloss of the layer.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiorns et al (US 6,284,034) in view of Schiappa et al (US 4,729,928), as applied to claims 1-3, 8, 10, 15-17, 21, and 23-25 above, and further in view of Govers et al (US 6,482,581B1). Hiorns in view of Schiappa is relied upon above, but neither reference teaches the bulk density of the base paper. However, teaches that the surface density and bulk density of a base paper is improved by pre-calendaring it, resulting in a higher quality paper (col 6, lines 35+). Thus, it would have been obvious to one of ordinary skill in the art to pre-calendar the base paper of Hiorns in order to optimize its surface density and improve its print quality.

10. Claims 6, 8, 11, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiorns et al (US 6,284,034) in view of Schiappa et al (US 4,729,928), as applied to claims 1-3, 8, 10, 15-17, 21, and 23-25 above, and further in view of Viratanen (US 6,143,064). Hiorns in view of Schiappa is relied upon as above, but does not teach that the calcium carbonate should be surface modified. However, Viratanen

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teaches a pigment particle comprising a pigment particle that is coated with particles of precipitated calcium carbonate (abstract). The precipitated calcium carbonate is platelet shaped (see electron micrograph figures). Said particles have excellent brightness (abstract) and are useful in paper coatings. Therefore, it would have been obvious to one of ordinary skill in the art to surface modify the particles taught in Hiorns with precipitated calcium carbonate in order to improve the brightness of the paper.

11. Claims 1, 2, 4, 11, 15, 16, 18, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strauch et al (US 4,279,661) in view of Schiappa et al (US 4,729,928). Strauch teaches a mineral filler having at most 15wt% by weight of particles which are smaller than 0.2 $\mu$ m (abstract). The preferred mineral fillers of the present invention contain 80-95wt% of particles smaller than 1 $\mu$ m (col 2, lines 61+). The particles comprise calcium carbonate, kaolin or the like (col 3, lines 1+). Said filler give superior gloss and quality (col 3, lines 3+) when blended with a binder and applied to a paper (col 1, lines 17+). Raw paper may be coated with a coating in amounts of 12g/m<sup>2</sup> (col 3, lines 48+).

While the exact particle size distribution ranges disclosed overlap with the claim requirements and are therefore considered to necessarily teach the instant claims.

Alternatively, one skilled in the art would have found it obvious to adjust the particle size distribution of the pigment to meet the claim requirements. The motivation for doing so would have been to control the gloss of the coated paper (col 3, lines 3+).

With respect to claim 15 and the claims dependent therefrom, a recitation of the intended use of the claimed invention must result in a structural difference between the

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claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The examiner takes the position that the laminate taught by Strauch in view of Schiappa is capable of performing the intended use because it comprises the same layers in the same order as the claimed invention. Furthermore, the backside of the paper support or the polyethylene (after surface treatment) could be rendered ink receptive.

Strauch does not teach that the paper may be further coated with a polyolefin resin composition. However, Schiappa teaches that a technique widely employed in providing protective coatings on printed materials as may be needed for high visibility and adverse wear conditions is the lamination of a protective polymeric material over the printed stock. The polymeric material is transparent and provides gloss of 73-74 to the printed stock (col 1, lines 64+). The polymeric material is typically polyethylene (col 5, lines 49+). It would have been obvious to one of ordinary skill in the art to apply a polyethylene coating to the printed paper taught in Strauch in order to provide the paper with the desired protection.

With respect to claims 21 -23, Schiappa does not teach the amount of polyethylene that should be applied, but does state that polyethylene preferably provides transparency and protection to the underlying substrate. Therefore, it would have been obvious to one of ordinary skill in the art to vary the amount of polyethylene applied to optimize the protection and transparency provided by the polymeric material.

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With respect to claims 24 and 25, it would have been obvious to one of ordinary skill in the art to minimize the surface roughness of the coating in order to optimize the gloss of the layer.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strauch (US 4,279,661) in view of Schiappa et al (US 4,729,928), as applied to claims 1, 2, 4, 11, 15, 16, 18, 21, and 23-25 above, and further in view of Govers et al (US 6,482,581B1). Strauch in view of Schiappa is relied upon above, but neither reference teaches the bulk density of the base paper. However, teaches that the surface density and bulk density of a base paper is improved by pre-calendaring it, resulting in a higher quality paper (col 6, lines 35+). Thus, it would have been obvious to one of ordinary skill in the art to pre-calendar the base paper of Strauch in order to optimize its surface density and improve its print quality.

13. Claims 6, 8, 11, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strauch et al (US 4,279,661) in view of Schiappa et al (US 4,729,928), as applied to claims 1, 2, 4, 11, 15, 16, 18, 21, and 23-25 above, and further in view of Viratanen (US 6,143,064). Strauch in view of Schiappa is relied upon as above, but does not teach that the calcium carbonate should be surface modified. However, Viratanen teaches a pigment particle comprising a pigment particle that is coated with particles of precipitated calcium carbonate (abstract). The precipitated calcium carbonate is platelet shaped (see electron micrograph figures). Said particles have excellent brightness (abstract) and are useful in paper coatings. Therefore, it would have been obvious to one of ordinary skill in the art to surface modify the

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particles taught in Strauch with precipitated calcium carbonate in order to improve the brightness of the paper.

14. Claims 3, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strauch et al (US 4,279,661) in view of Schiappa et al (US 4,729,928), as applied to claims 1, 2, 4, 11, 15, 16, 18, 21, and 23-25 above, and further in view of Ferris (US 3,661,610). Strauch in view of Schiappa is relied upon as above, but does not teach that the pigment should comprise a blend of calcium carbonate and kaolin clay.

However, Ferris teaches that it is known to prepare mixtures of kaolin clay and calcium carbonate in order to combine the good optical properties of the clay and the good rheological properties of the calcium carbonate (col 1, lines 27+). Thus, it would have been obvious to one of ordinary skill in the art to optimize a blend of kaolin clay and calcium carbonate to be utilized as the pigment in Strauch in order to optimize the pigment's optical and rheological properties.

### ***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

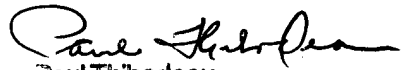
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

*K-RK*  
krk

  
Paul Thibodeau  
Supervisory Patent Examiner  
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